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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ZHAO, XIAO SI	
			ART UNIT	PAPER NUMBER
			1792	
			NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No. 10/588,213	Applicant(s) AYDIN ET AL.	
	Examiner XIAO ZHAO	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/2/2006, 3/13/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the limitation of “the ratio of the individual layers within...” should be changed to “the ration of the film thickness of the individual layers within...” as evidenced by Applicants’ specification (page 7, 1st paragraph). Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2, 3, 9, and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitations in claim 9, particularly "in relation to solutions of reactive products used as crosslinkers" is unrelated to what is claimed in 8 since there is no mention of “reactive products” in previous claims and it is unclear what is meant by “in relation”. Thus, it constitutes an indefinite subject matter as per metes and bounds of such are not readily ascertainable. Clarification is required. For examination purposes it is assumed that the composition used in the solution contains crosslinkers.

Regarding claims 2, the phrase "particular" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Appropriate correction is needed. For the purpose

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of examination, the Examiner assumes the claim to be "...to render web-form substrates, paper, film, or adhesive."

Regarding claims 3 and 10, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Appropriate correction is needed. For the purpose of examination, the Examiner assumes claim 3 to be "used to coat web-form substrates, paper, polymeric films..." and claim 10 to be "...in one operation using styrene-butadiene dispersions, acrylate..."

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Hughes et al. (GB 1276381).

Per independent claim 1, Hughes et al. teach a method of applying two liquid coating compositions (pg. 6, 34-36) in the form of a dispersion (pg. 7, 4-8) on a substrate such as a web (page. 3, 109-112). The number of individual layers may range from two to as many as ten or more (pg. 7, 53-56) and the flowable media are applied using a cascade die (see Fig. 1, 6, 7, and 8). Example 13 shows a multilayer that has different chemically flowable media (pg. 14, example 13). Example 17 shows a

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two-layer coating wherein the top layer has 103 g/m^2 and the bottom layer has 21.6 g/m^2 (pg. 14, example 17). It is clear that the total amount applied is between 2 g/m^2 to 200 g/m^2 and that the ratio of the thickness between the top and bottom layer also falls between 0.1 to 100.

Per claims 2-4, the support (substrate) that can be utilized are of film base, paper, polymeric film, and etc. (pg. 8, 7-23). Since the compositions are simultaneously applied to the substrate, it meets the definition of applying it in "one pass".

Per claim 7, the photographic layers can be materials such as silver halides (metal complex) and the layer can contain colloids such as synthetic polymers (pg. 7, 114-130).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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7. Claims 5-6, and 8-10 rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes et al. (GB 1276381) in view of Yoshioka et al. (US 6485898).

Hughes et al. teach all the limitation of claim 1, and further teach that the method can be utilized to coat any material or mixture of materials which can be put in liquid form (pg. 7, 3-10); various surfactants can be used to modify surface tension and coatability of the photographic coating such as anionic and non-ionic surfactants (pg. 8, 23-40); and the reference expresses the desirability for substantially no intermixing between adjacent layers to achieve good separation between the layers (pg. 3, 3-12).

Hughes et al. does not teach the photographic composition can contain aqueous solutions of polymers, layering of cationic and anionic polymers, the composition contain polyisocyanate, polyepoxides, or polyacrydines, the composition are applied as individuals layers such as styrene-butadiene dispersions, acrylate, ethylene, vinylacetate dispersions, polyurethane dispersions, wax emulsions, or silicone emulsions are used as release coat layers, and a first thin layer servers to improve wettability on the release coat.

Yoshioka et al. teach a photographic composition/material.

Per claim 5-6, Yoshioka et al. teach that a polymer dispersible in an aqueous solvent is particularly preferred as the photographic composition (col. 23, 65-67) and that the dispersing agent can be anionic or cationic surfactants (col. 18, 31-46).

Per claim 8, Yoshioka et al. teach that a hardening agent may also be added such as polyisocyanate to the composition (col. 39, 28-38).

Per claim 9, Yoshioka et al. teach that the polymers may be crosslinked (col. 24, 5-8).

Per claim 10, Yoshioka et al. teach styrene/butadiene copolymer latex can be used in the composition (col. 25, 38-50), dispersions such as acrylates, ethylene, acrylic acid, can be used, for example as an intermediate layer (col. 49, 53-58), wax emulsion can also be used (col. 69, 48-50). While Yoshioka et al. does not specify that the wax emulsion can be used as a release coat, it is well known in the art that release coats are used to prevent unwanted adhesion between layer and substrates during high temperatures, and thus, it would have been obvious to use the wax emulsion as the release coat so a more desirable multilayer photographic coating can be achieved on a substrate.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the photographic composition/material taught by Yoshioka et al. as the composition in Hughes et al. because both references deal with photographic composition and Hughes et al. recites that the method can be utilized to coat any material or mixture of materials which can be put in liquid form (pg. 7, 3-10). In addition, choosing and manipulating various chemical compounds, surfactants (cationic or anionic), and using different dispersions as layers will be obvious to the ordinary artisan in order to achieve a desirable final multilayer because Hughes et al. express the desirability for substantially no intermixing between adjacent layers to achieve good separation between the layers (pg. 3, 3-12). The purpose of the different compounds

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and surfactants, in the instant application and references, are to achieve the same effect of good layer separation and no intermixing.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes et al. (GB 1276381) in view of Yoshioka et al. (US 6485898) and further in view of Wilson (US 5254661).

Hughes et al. in view of Yoshioka et al. teach all the limitations of claims 1 and 10. They fail to teach that a first thin layer is deposited to improve the wettability of the release coat.

Wilson teaches that a wash coat can be used to improve the wettability of the release coating (col. 3, 60-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a wash coat (reads on "a first thin layer"), as taught by Wilson, as a first thin layer to improve the wettability of the release coat as taught by Hughes et al. in view of Yoshioka et al. because this is the combination of two known methods to achieve a predictable result (improved wettability). One would want to improve the wettability of the release coat because it is desirable for the release coat to have a strong contact with the first layer and thus, the substrate that the first layer is coated on, to improve the overall integrity of the multi-layer. .

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO ZHAO whose telephone number is (571)270-5343. The examiner can normally be reached on Monday to Friday 8:30 am EST to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on (571)272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Xiao S Zhao/
Examiner, Art Unit 1792

/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 1792

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